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**Uwagi o rodzaju *Bennaria* MEL. oraz opisy nowych gatunków (*Homoptera*, *Cixiidae*).****Notes on the genus *Bennaria* MEL. with descriptions of new species (*Homoptera*, *Cixiidae*).**

[With 11 text-figures].

The General Catalogue of the *Hemiptera* (METCALF, 1936) quotes only two species as belonging to the genus *Bennaria* MEL.: *B. bima-cula* MEL., 1914 (orthotype of the genus) and *B. clarescens* (WALK., 1857). An examination of the type-specimens from the tribe *Ben-nini*<sup>1)</sup> in the collections of the British Museum and Polish Museum of Zoology showed, that at least the following three species previously described must be placed in the genus *Bennaria* MEL.: *Brixia guttata* WALK., 1870, described from New Guinea and Sula, *Benna praestans* WALK., 1857, described from Borneo (both referred in the General Catalogue of the *Hemiptera* to the genus *Benna* WALK.) and *Brixia buruana* SCHM., 1926, described from Buru I. All these species, as well as six new species described below, lack longitudinal carina on the forehead; this character separates the genus *Bennaria* MEL. from the genus *Benna* WALK.

<sup>1)</sup> This name was introduced by METCALF (1938) for a group of two genera: *Benna* WALK. and *Bennaria* MEL., characterizing by having a pair of long appendages at the base of abdomen.

The genus *Bennaria*, in respect of its geographical distribution is limited to the east part of the Malaysian Region and the west part of the Austromalayan Region<sup>1)</sup>. One species (*B. formosana* sp. nov.) is known from Formosa, which have an intermediate character between Oriental and Palaearctic Regions and, on the other hand, may have some affinities to the Malaysian Region.

The male genitalia were examined in all species of which material of males was available. In general, the external characters are not sufficient to identify properly the species, but a key is given for general orientation.

*Bennaria bimacula* MEL.

[Fig. 1]

*Bennaria bimacula* MELICHAR, 1914, p. 175, Pl. 1, fig. 3.

This species is hitherto known only from the Philippine Islands. The figure given refers to a specimen from Mindanao.

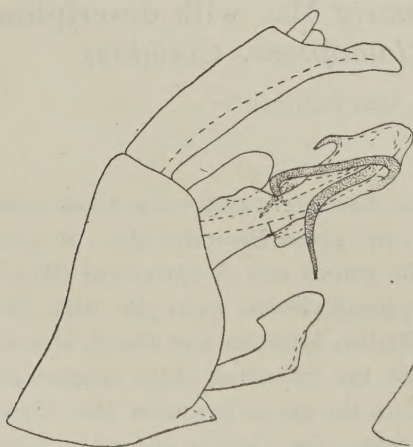


Fig. 1. *Bennaria bimacula* MEL.,  
♂; lateral view of genitalia.

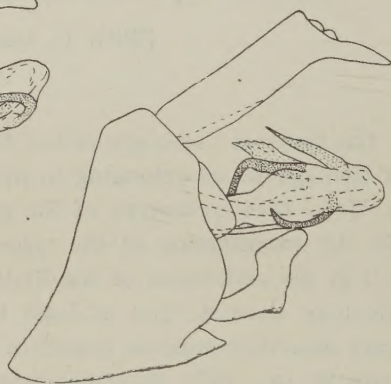


Fig. 2. *Bennaria formosana* sp. nov.,  
♂, holotype; lateral view of genitalia.

Mindanao, Kolambugan, BAKER, MUIR coll., 2 ♂♂; Mindanao, Iligan, BAKER, MUIR coll., 1 ♀; Luzon, Mt. Makiling, BAKER, MUIR coll., 2 ♀♀. All specimens in the collection of the British Museum.

<sup>1)</sup> Geographical regions according to METCALF.

*Bennaria formosana* sp. nov.

[Fig. 2]

This species is very similar to *B. bimacula* MEL., but a little smaller. Besides a brownish spot at the ramification of cubitus, there is a second brownish spot at the end of clavus; this spot is much more strongly marked than in *B. bimacula* MEL. Genitalia as figured. Total length 7.5 mm.

Holotype male: Formosa, KATO; in the collection of the British Museum.



Fig. 3. *Bennaria cyclopina* sp. nov.,  
♂, holotype; lateral view of genitalia.

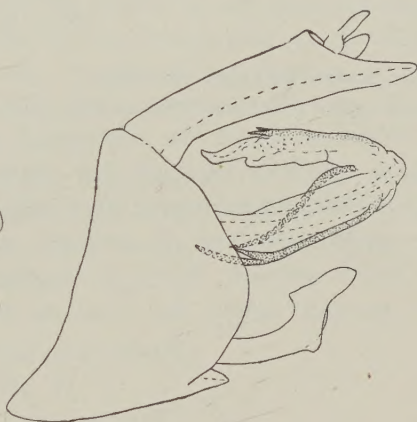


Fig. 4. *Bennaria chinai* sp. nov.,  
♂, holotype; lateral view of genitalia.

*Bennaria cyclopina* sp. nov.

[Fig. 3]

This species differs from other species of the genus *Bennaria* in the upper part of forehead, which is much more narrower than in other species. All nerves of the forewing dark brown. Total length: ♂ 6.5 mm., ♀ 8.5 mm. Genitalia as figured.

Holotype male: Dutch New Guinea, Cyclops Mts., Sabron, Camp 2, 2000 ft., VII 1936, L. E. CHEESMAN. Allotype female: Dutch New Guinea, Cyclops Mts., 3400—4500 ft., III 1936, L. E. CHEESMAN. All types in the collection of the British Museum.



*Bennaria chinai* sp. nov.

[Fig. 4]

Very similar to *B. bimacula* MEL. and *B. formosana* sp. nov., but the pattern of forewings pale and weakly marked, except a characteristic black spot at the ramification of cubitus, which is distinct. Total length: ♂ 8 mm, ♀ 9 mm. Genitalia as figured.

Holotype male: W. Borneo, Telok Ayer, F. MUIR. Allotype female: Borneo, Sandakan, BAKER. Types in the collection of the British Museum.

*Bennaria guttata* (WALK.)

[Fig. 5]

*Brixia guttata* WALKER 1870, part.

*Benna guttata* DISTANT, 1907, p. 285, part.

WALKER based the description on two specimens which belong to different, although very nearly related species. One of them from New Guinea bears a label with the name „*B. guttata* WALK.“, the second, labelled „*B. ditiasa*“, is from Sula. It was probably WALKER'S primary intention to describe these specimens under two separate names, but later he decided not to do so. I select

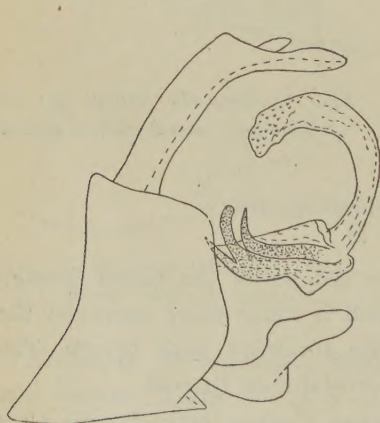


Fig. 5. *Bennaria guttata* (WALK.)  
♂, type; lateral view of genitalia.

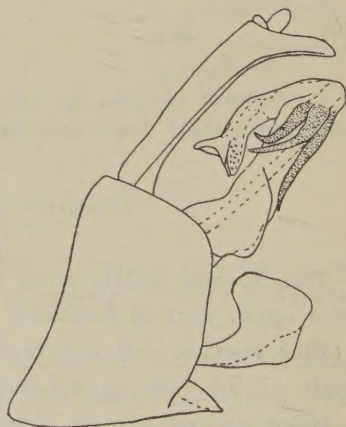


Fig. 6. *Bennaria marmorata* sp. nov., ♂, holotype; lateral view of genitalia.

the specimen from New Guinea as a lectotype of *B. guttata* WALK. The above-mentioned specimen from Sula is described below (p. 183). Genitalia as figured. The type is labelled: N. Guinea, WALLACE,

*Bennaria marmorata* sp. nov.

[Fig. 6]

This species is very nearly related to *B. clarescens* (WALK.) and *B. praestans* (WALK.). Body brown; the middle of the forehead dark brown, the sides paler with a row of shallow impressions, similarly as in *B. clarescens* (WALK.). The basal third of the forewing brown, unicolorous, the rest remaining pale, yellowish, with brownish irregular spots; in the middle of the forewing these spots fill the centres of cells, the nerves remain pale; in the distal part of forewing these spots are situated along the nerves and on adjacent parts of cells, the centres of cells remaining pale. Hind wings dull whitish. Genitalia as figured.

Holotype male: Sarawak, Mt. Dulit, 4000 ft., moss forest, 24 X 1932, Oxford Univ. Expedition, B. M. HOBBY and A. W. MOORE, light trap. Allotype female: the same data, 15 X 1932. Types in the collection of the British Museum.

*Bennaria clarescens* (WALK.)

[Fig. 7]

*Benna clarescens* WALKER, 1858, p. 158

*Bennaria clarescens* MUIR, 1926, p. 397

The type has the abdomen missing. This species, described originally from Borneo, was recorded by MUIR from Siberut Isl. and Singapore. All specimens examined by me were from Borneo. Genitalia as figured.

Borneo (type of *Benna clarescens* (WALK.)); Borneo, 1 ♂; Sarawak, Mt. Dulit, 3500 ft., moss forest, undergrowth, 14 X 1932, Oxford Univ. Expedition, B. M. HOBBY and A. W. MOORE; 1 ♂, 1 ♀; Sarawak, Mt. Dulit, R. Koyan, 2500 ft., primary forest, undergrowth, 14 XI 1932, Oxford Univ. Expedition, B. M. HOBBY and A. W. MOORE, 1 ♂; Sarawak, Mt. Dulit, R. Koyan, 2500 ft., primary forest, 19 X 1932, Oxford Univ. Expedition, B. M. HOBBY and A. W. MOORE, 1 ♂.





Fig. 7. *Bennaria clarescens* (WALK.), ♂; lateral view of genitalia.



Fig. 8. *Bennaria praestans* (WALK.), ♂, lateral view of genitalia.

*Bennaria praestans* (WALK.)

[Fig. 8]

*Benna praestans* WALKER, 1857, p. 158

I examined several specimens of this species, not mentioned in the literature since the time of its description, besides in the



Fig. 9. *Bennaria ditiasa* sp. nov., ♂, holotype; lateral view of genitalia.

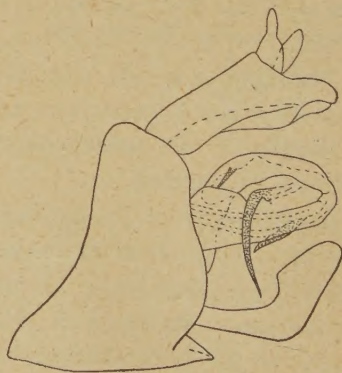


Fig. 10. *Bennaria ditiasa* sp. nov., ♂, paratype from Amboina; lateral view of genitalia.

catalogues. Unfortunately the type has the abdomen missing. All specimens known to me are from Borneo. Genitalia as figured.

Sarawak (type of *Benna praestans* (WALK.); Sarawak, Mt. Dulit, 4000 ft., moss forest, 19 X 1932, 1 ♀; 21 X 1932, light trap, 1 ♀; 25 X 1932, light trap, 1 ♂; 26 X 1932, 1 ♂, Oxford Univ. Expedition, B. M. HOBBY and A. W. MOORE; Borneo, 1 ♂; Kuching, HEWITT, 1 ♀; Matang Rd., Nov. 12, 1909, 1 ♂. The last specimen belongs to the collection of the Polish Museum of Zoology, other to the collection of the British Museum.

*Bennaria ditiasa* sp. nov.

[Figs. 9 and 10]

*Brixia guttata* WALKER, 1870, p. 110, part.

*Benna guttata* DISTANT, 1907, p. 285, part.

*Benna ditiasa* DISTANT, 1907, p. 285, nomen nudum.

This name was introduced to the literature by DISTANT, who cited a collection name of WALKER, without any description, referring it as a synonym of *B. guttata* WALK. Nevertheless the WALKER'S specimen belongs to a distinct species. A series of specimens from Amboina in the collection of the British Museum belongs, in my opinion, to the same species.

Very similar to *B. guttata* (WALK.) and differs considerably in male genitalia. This species characterizes with 4 brown small spots near the base of forewing, forming a quadrate. One of these spots is situated between radius and media, two other in a line between media and cubitus, and the last one on clavus between sutura clavi and the internal claval vein. The brownish spots between the costal border of the forewing and Sc+R, which are characteristic for *B. guttata* (WALK.) are lacking in *B. ditiasa* sp. nov. I give the figures of genitalia from the type-specimen from Sula [Fig. 9] and from a paratype from Amboina [Fig. 10]. The differences in the length and shape of spines on aedeagus between them is not very great and I decided to consider both as belonging to one species. Total length 7.5 mm.

Holotype male: Sula. Allotype female, 2 male paratypes and 5 female paratypes: Amboina, F. MUIR. Types in the British Museum.



*Bennaria buruana* (SCHM.)

*Brixia buruana* SCHMIDT, 1926, p. 231.

From this species, belonging without doubt to the genus *Bennaria* MEL., I know only the type (♀). It represents a distinct species closely related to *B. ditiasa* sp. n. and *B. guttata* (WALK.). The space between the costal border and Sc+R, and that between the costal border and the proximal part of Sc is unicolorous, brownish, without dark spots, characteristic for *B. guttata* (WALK.). Venation brown, except several nerves near the end of the claval suture, which are bright yellow.

Buru, Station 9, 19 VI 1921, leg. L. J. TOXOPEUS.

*Bennaria fennahi* sp. nov.

[Fig. 11]

Body yellow, the processes at the base of abdomen brownish, and the upper part of abdomen brown. Forewings opaque, whitish, the nerves on corium brown, narrowly bordered with brown towards the end of the wing; the apical border shaded with brown; the nerves on clavus pale, a little darker than the colour of the wing; before the end of clavus the common stalk of the claval veins is on a short distance brown, bordered with brown. Hind wings dull white. Genitalia as figured.

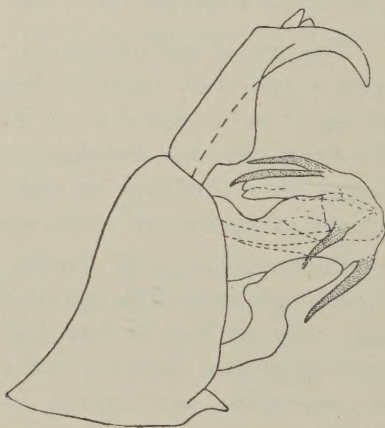


Fig. 11. *Bennaria fennahi* sp. nov., ♂, holotype; lateral view of genitalia.

Holotype male, allotype female and 3 male paratypes: Solomon Is., Tulagi, R. A. LEVER; in the collection of the British Museum.

The following key will aid in the determination of the above-mentioned species:

- |   |     |  |   |
|---|-----|--|---|
| 1 | (4) | Base of forewing dark, the rest remaining pale . . . . .           | 2 |
| 2 | (3) | Base of forewing dark, the rest unicolours, creamy white . . . . . |   |
|   |     | . . . . . <i>B. praestans</i> (WALK.), Borneo                      |   |
| 3 | (2) | Base of forewing dark, the rest spotted with brown . . . . .       |   |
|   |     | . . . . . <i>B. marmorata</i> sp. nov., Borneo                     |   |



- 4 (1) Base of forewing not darker than the rest . . . . . 5  
 5 (6) A dark transverse band at  $\frac{1}{3}$  of the forewing from the base. . .  
     . . . . . *B. clarescens* (WALK.), Borneo, Siberut I., Singapore  
 6 (5) Forewing without dark transverse band . . . . . 7  
 7 (8) A brownish-black spot at the ramification of cubitus  
     . . . . . *B. bimacula* MEL., Philippine I  
     . . . . . *B. formosana* sp. nov., Formosa  
     . . . . . *B. chinai* sp. nov., Borneo  
 8 (7) Without a brownish-black spot at the ramification of cubitus . . . 9  
 9 (10) Forewing white, the nerves brown *B. fennahi* sp. nov., Solomon I.  
 10 (9) Forewing spotted with brown . . . . . 11  
 11 (12) All nerves dark brown . . . *B. cyclopina* sp. nov., N. Guinea .  
 12 (11) Nerves partially brown . . . . . 13  
 13 (14) Four brownish spots near the base of forewing . . . . .  
     . . . . . *B. ditiasa* sp. nov., Sula, Amboina  
 14 (13) Forewing without four spots near the base . . . . . 15  
 15 (16) The space between the costal border and Sc unicolours, without brown-  
     ish spots . . . . . *B. buruana* (SCHM.), Buru I.  
 16 (15) Two brownish spots between the costal border and Sc . . . .  
     . . . . . *B. guttata* (WALK.), N. Guinea .

To the genus *Bennaria* belongs probably *Benna rhyparoptera* STÅL, described from the Philippine I. (STÅL, 1870, p. 747). In a very short description STÅL, pointed out a considerable width of forewing at its end. This character and the fact that STÅL compared his species with *B. clarescens* (WALK.) seem to support my supposition. *B. rhyparoptera* STÅL is probably superficially similar to *B. guttata* (WALK.), *B. ditiasa* sp. nov. and *B. buruana* (SCHM.).

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#### STRESZCZENIE.

Autor omawia znane dotychczas gatunki z rodzaju *Bennaria* MEL. podając pewne szczegóły morfologiczne, przede wszystkim aparat genitalny samców. Następujące 6 gatunków zostało opisanych jako nowe: *B. formosana* sp. nov., *B. cyclopina* sp. nov., *B. chinai* sp. nov., *Bennaria marmorata* sp. nov., *B. ditiasa* sp. nov. i *B. fennahi* sp. nov.

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